

GENUS *HAPATESUS* FROM THE AUSTRO-MALAYAN SUB-REGION
(COLEOPTERA: ELATERIDAE)

By ARTURS NEBOISS, M.Sc., F.R.E.S.*

[Read 12 December 1957]

Abstract

The genus *Hapatesus* Candèze is now known from the Austro-Malayan Sub-region with five species, of which four are described in this paper as new. All these species belong to the subgenus *Hapatesus* sensu stricto, the subgenus *Minutesus* not being represented so far in this Sub-region.

Introduction

With the Australian *Hapatesus* material that was recently revised, a small collection of specimens from New Guinea and New Britain was received for study. Until the present time only one species was known from regions outside Australia, namely *Hapatesus hirtellus* Candèze, which was described from Dutch New Guinea in 1882. Apart from the original description only a few short references have been given to this species, and it was interesting to find that from twenty-six specimens now available for study only two belonged to the known species, the others belonging to distinct species that are described hereunder as new.



Locality map.

1—Amberbaki, Dutch New Guinea; type locality of *H. hirtellus* Cand. 2—Cyclops Mts., near Hollandia, Dutch New Guinea. 3—Mt. Tafa (8,500-9,000 ft.), Papua, Lat. 8° 38' S.; Long. 147° 10' E. 4—Kokoda, Papua. 5—Rabaul, New Britain.

* Assistant Curator of Insects, National Museum of Victoria.

The genus *Hapatesus* Candèze (1863) is widely distributed in eastern Australia, and forms two distinct subgenera—*Hapatesus* s.str. and *Minutesus* (Neboiss, 1957). All species described in this paper belong to the former subgenus which is characterized in the male by having an apical hook on the lateral lobe of aedeagus, and in the female by the bursa copulatrix being without spiculation near the opening of spermathecal duct. Although generally very similar, New Guinea and New Britain *Hapatesus* species are separated from the Australian forms by having the pronotum more glossy because of the finer and sparser punctuation.

The available material is rather limited, and therefore the actual distribution of species is incompletely known, but some appear to have a wide range, e.g. *H. tropicus* is known from Rabaul, New Britain; Kokoda, Papua; and Cyclops Mountains, Dutch New Guinea; thus extending over a distance of more than 1,000 miles.

There is a small male specimen in the British Museum (Natural History) collection, labelled "Papua, Kokoda, 1,200 ft. Aug. 1933. L. E. Cheesman", and which differs from all other species discussed in this paper by its smaller size and other minute characters, but as no females are associated with this specimen, it has not been described hereunder.

Material for this study has been received from the British Museum (Natural History), London (BM); Hawaiian Sugar Planters' Association, Honolulu, Hawaii (HSPA); and the Institut Royal des Sciences Naturelles de Belgique, Brussels (IRSNB).

Key to the species of Austro-Malayan *Hapatesus*

1. Pronotum more or less evenly convex 2
Pronotum flattened, median portion rising no higher than the carina . . *H. depressus* sp. nov.
2. Pronotum and elytra concolorous 3
Pronotum orange brown, elytra darker reddish brown 4
3. Smaller species (7-8 mm.), yellowish brown *H. hirtellus* Cand.
Larger species (9-10 mm.), dark reddish brown *H. obscurus* sp. nov.
4. Slender species; lamina dentata with spines extending beyond both lateral edges
. *H. limus* sp. nov.
Species more robust, lamina dentata with spines extending beyond one lateral edge only . .
. *H. tropicus* sp. nov.

Hapatesus (*Hapatesus*) *hirtellus* Candèze

(Figs. 1 and 2)

Hapatesus hirtellus Candèze, 1882, *Mem. Soc. Roy. Sci. Liège*, (2) 9: 98.

Hapatesus hirtellus van Zwaluwenburg, 1948, *Proc. Hawaii ent. Soc.*, 13: 276.

Concolorous yellowish brown species, pronotum with darker anterior margin. Semi-erect, pale yellowish hairs scattered on dorsal surface, decumbent and finer on the ventral surface.

Head with triangular depression in the middle, anterior margin darker; eyes yellowish brown. Pronotum slightly longer than wide; sides rounded towards the anterior angles, posterior angles short; carina strong, close and parallel to the side margin; surface evenly convex, sparsely and finely punctate, interspaces glossy. Elytra 2.5 times as long as wide, sides subparallel to middle then gradually narrowed towards the apex; striae slightly impressed, finely punctate; intervals almost flat, glossy, with a row of fine punctures.

Lamina dentata very characteristic, triangular; spines relatively long, directed towards the apex, and not extending beyond the lateral edges.

Aedeagus slightly robust; apical hooks small; median lobe with rounded apex, furca wide and short.

The specimens ascribed to this species by van Zwaluwenburg (1948) have not been available for study by the present author. It is not certain whether these specimens really belong to *hirtellus*, or to one of the new species (*tropicus* or *linus*) described in this paper, especially observing the note that "the prothorax more brightly reddish than the elytra and have a longitudinal median blackish marking on the pronotum" which is rather a typical character to the two new species. (See *H. tropicus*.)

Length 7-8 mm., width 2.5 mm.

Type material: Type ♀, Amberbaki, Dutch New Guinea (IRSNB). ♂ genitalia drawn from a specimen from Cyclops Mts. near Hollandia, Dutch New Guinea (HSPA).

***Hapatesus (Hapaetsus) linus* sp. nov.**

(Fig. 3)

Head, antennae, elytra and legs reddish brown; pronotum orange brown with an indistinct darker longitudinal median marking, and darker anterior margin. Dorsal surface sparsely covered with fine semi-erect pale yellowish hairs, ventral surface with decumbent pubescence.

Central triangular depression on the head present, but not very distinct; eyes black. Pronotum slightly wider than long, sides parallel in the posterior two-fifths, then gradually narrowed towards the anterior angles; carina strong, more or less parallel to the side margin; surface sparsely and finely punctate, interspaces glossy. Elytra 2.6 times as long as wide, sides gradually narrowed towards the apex; striae moderately impressed, finely punctate; intervals flat, comparatively wide, shiny, each with a row of fine irregular punctures.

Lamina dentata relatively large, spines more or less uniform in size, some of them slightly larger, extending beyond the two lateral edges.

♂ unknown.

Length 9-10 mm., width 2.5-3 mm.

Type material: Holotype ♀ and paratype ♀: Cyclops Mts., Mt. Lina, Dutch New Guinea 3,500-4,500 ft. March 1936. L. E. Cheesman (BM).

***Hapatesus (Hapatesus) tropicus* sp. nov.**

(Figs. 4 and 5)

General colour dark blackish brown; pronotum lighter orange-brown with a blackish central longitudinal marking. Dorsal surface covered with pale yellowish semi-erect hairs, ventral surface with decumbent pubescence.

Central triangular depression on the head distinct, punctures moderate; eyes dark brown. Pronotum wider than long, sides almost parallel as far as the anterior third, then rounded towards the anterior angles; surface finely punctate, interspaces glossy; carina strong, more or less parallel to the side margin. Elytra approximately 2.4 times as long as wide, sides subparallel to the middle, then gradually rounded towards the apex; striae moderately impressed, finely punctate; intervals only slightly raised, each with a row of irregular punctures.

Lamina dentata elongate, triangular, spines more or less uniform in size, but with a row of larger spines extending beyond the longest lateral edge.

Aedeagus very similar to that of *H. hirtellus*, but is more slender; median lobe pointed, but furca slightly longer.

Length 7.5-10 mm., width 2.5-3 mm.

Type material: Holotype ♀, allotype ♂ and 1 paratype ♀: Rabaul, New Britain, April 1937 (HSPA); 5 other paratypes BM collection: 1 ♀ Cyclops Mts., Sabron,

930 ft., May 1936; 1 ♀ Mt. Cyclops, 3,500 ft., March 1936; 1 ♂ Cyclops Mts., 3,400-4,500 ft., March 1936; 1 ♂, 1 ♀ Kokoda, Papua, 1,200 ft., August 1933, collected by L. E. Cheesman.

Through the courtesy and co-operation of Dr. J. F. Gates Clarke, and T. J. Spilman, both of the Smithsonian Institution, Washington, U.S.A., to whom I express my sincere thanks, I was able to examine part of the material collected by B. Malkin in 1945, and later identified by Van Zwaluwenburg as *Hapatesus hirtellus* Candèze, as well as some other specimens. The material consisted of six specimens (4 ♂ ♂ 2 ♀ ♀) from Hollandia, Dutch New Guinea, collected 1945 by B. Malkin; 1 ♀ from the same locality 27.7.1944, and 1 ♀ from Nazab, Markham River, New Guinea, 6.1944, both collected by K. V. Krombein. The examination showed that all these specimens belong to *Hapatesus tropicus* sp. nov.

This material became available during the publication of this paper.

Hapatesus (Hapatesus) obscurus sp. nov.

(Figs. 6 and 7)

Almost unicolorous dark reddish brown species, with the exception of legs and antennae which are somewhat lighter in colour; pronotum with indistinctly darker longitudinal median marking. Hairs on dorsal surface fine, semi-erect, almost white; those on the ventral surface decumbent.

Head with somewhat triangular depression, moderately punctate; eyes brown. Pronotum only slightly wider than long, evenly and strongly convex; sides gradually contracting towards the anterior angles; carina strong, parallel to the side margin; surface finely and sparsely punctate, interspaces glossy. Elytra 2·3 times as long as wide, sides subparallel to the middle, then gradually curving towards the apex; striae moderately impressed, punctate; intervals almost flat, each with a row of fine irregular punctures.

Lamina dentata elongate, triangular, a number of slightly larger spines extending beyond the longest lateral edge.

Aedeagus more slender than in *H. hirtellus*, apical hooks small, furca of the median lobe short and wide.

Length 9-10 mm., width 2·6-3 mm.

Type material: Holotype ♀: Papua, Kokoda, 1,300 ft., September 1933; allotype ♂: Papua, Kokoda, 1,200 ft., June 1933; paratypes 1 ♀ and 2 ♂ ♂ Papua, Kokoda, 1,200 ft., May, June and August 1933. All specimens collected by L. E. Chessman (BM).

Hapatesus (Hapatesus) depressus sp. nov.

(Figs. 8 and 9)

Generally dark reddish brown, with slightly lighter coloured pronotum. Hairs on dorsal surface moderately dense, almost decumbent, with a few semi-erect near the sides of elytra, pale yellowish; those on the ventral surface finer and decumbent.

Head flat, with triangular central depression; eyes very dark brown. Pronotum distinct, flattened, slightly wider than long; median portion rising no higher than the carina, slight longitudinal depression on either side parallel to the margin; surface moderately punctate, interspaces glossy. Carina with lateral concavity near the posterior third, where it is furthest from the side margin. Sides gradually contracting towards the anterior angles. Elytra 2·7 times as long as wide, subparallel to the middle then gradually contracting towards the apex. Striae moderately impressed, punctate; intervals slightly convex or flat, each with a row of irregular punctures.



FIGS. 1-9

Neoboris

Lamina dentata small in comparison with the size of the specimen, spines small, directed towards the apex, and extending beyond the longest lateral edge. Apices of the two chitinous rods as well as the apex of the chitinous extension of eighth sternite clavate.

Aedeagus moderately robust; median lobe straight, apex pointed.

Length 11-12.5 mm., width 3-3.5 mm.

Type material: Holotype ♀, allotype ♂: Papua, Mt. Tafa, 8,500 ft., March 1934. L. E. Cheesman (BM).

There are two other female specimens referred to this species. Both are collected at the same place and date as the types, but apices of the two chitinous rods and the chitinous extension of eighth sternite are not clavate, specimens are slightly smaller and lighter coloured. Because of these differences these two specimens are not selected as paratypes. More material is necessary to establish the correct relationship between the specimens.

Acknowledgements

I would like to express my sincere thanks to Miss Christine von Hayek of the British Museum (Natural History), London, Dr. J. M. Vrydagh of the Institut Royal des Sciences Naturelles de Belgique, Brussels, and Dr. F. A. Bianchi of the Hawaiian Sugar Planters' Association, Honolulu, for loan of this very interesting material on behalf of the respective institutions.

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Explanation of Figures

- FIG. 1.—*H. hirtellus* Cand., lamina dentata.
 FIG. 2.—*H. hirtellus* Cand., aedeagus.
 FIG. 3.—*H. linus* sp. nov., lamina dentata.
 FIG. 4.—*H. tropicus* sp. nov., lamina dentata.
 FIG. 5.—*H. tropicus* sp. nov., aedeagus.
 FIG. 6.—*H. obscurus* sp. nov., lamina dentata.
 FIG. 7.—*H. obscurus* sp. nov., aedeagus.
 FIG. 8.—*H. depressus* sp. nov., lamina dentata.
 FIG. 9.—*H. depressus* sp. nov., aedeagus.